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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,554	09/04/2003	Lewis B. Aronson	9775-0197-999	3332
24341	7590	06/15/2005	EXAMINER	
MORGAN, LEWIS & BOCKIUS, LLP. 2 PALO ALTO SQUARE 3000 EL CAMINO REAL PALO ALTO, CA 94306			LEUNG, CHRISTINA Y	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/657,554	Applicant(s) ARONSON ET AL.	
	Examiner Christina Y. Leung	Art Unit 2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-31-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al. (US 5,812,572 A) in view of Stephenson (US 2002/0027688 A1) and Swartz (US 6,021,947 A).

3. Regarding claims 1 and 4, King et al. disclose a circuit for controlling an optoelectronic device having a laser transmitter 36 (Figure 1) comprising:

memory (the PROM, RAM, and EEPROM elements in microcontroller 50), including one or more memory arrays for storing information related to the device;

analog to digital conversion circuitry 52 for receiving at least one analog signal, the at least one analog signal corresponding to operating conditions of the optoelectronic transceiver, converting the at least one analog signal into at least one digital value, and storing the at least one digital value in at least one predefined location in the memory (column 7, lines 40-45; column 13, lines 49-67; column 14, lines 1-9); and

an interface 26 configured to enable a host (such as computer 90 in Figure 3) to read from and write to host-specified locations within the memory and to enable the host to read from the at least one predefined location in the memory (column 10, lines 10-18; column 16, lines 58-63);

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comparison logic (logic circuitry in microcontroller 50) configured to compare the at least one digital value with a limit value to generate a flag value (i.e., an “alarm”; column 16, lines 24-33); and

operation disable circuitry configured to disable operation of at least part of the optoelectronic device in response to a signal, wherein the signal is based on the flag value (column 16, lines 36-38).

King et al. do not explicitly label a part of their circuit as “operation disable circuitry,” but they clearly disclose circuitry that controls the optoelectronic device (such as modulation control adjust 24 and bias control 30) and also disclose that the system may disable the device. It would be well understood in the art that King et al. inherently disclose that the circuitry for controlling the device is configured to disable the device if desired.

Although King et al. also disclose a photodiode receiver 40, the receiver 40 receives a signal fed back from the transmitter; they do not specifically disclose a photodiode receiver together with the disclosed laser transmitter in a “transceiver” context (wherein the receiver would receive signals sent from an opposing communication device).

However, bidirectional optical communication using a transmitter and a receiver at both ends is well known in the art. Stephenson in particular teaches an optical communications system (Figures 2-4), including a laser transmitter 110 such as already disclosed by King et al., and further including a photodiode receiver 134 associated with that transmitter to provide a transceiver. It would have been obvious to a person of ordinary skill in the art to further include a receiver as taught by Stephenson in the system disclosed by King et al. in order to enable bidirectional communications between two locations.

King et al. do not specifically disclose that the circuit is an integrated circuit. However, it is well known in the art that a circuit containing components such as memory or analog to digital conversion circuitry may be integrated, as Swartz in particular teaches (column 11, lines 3-22). It would have been obvious to a person of ordinary skill in the art to integrate the controller components disclosed by King et al. as taught by Swartz (in the system described by King et al. in view of Stephenson) in order to manufacture the controlling circuit efficiently and compactly.

Regarding claims 2 and 5, King et al. in view of Stephenson and Swartz et al. describe systems as discussed above with regard to claims 1 and 4 respectively including an optoelectronic transceiver. King et al. also discloses operation disable circuitry as discussed above, but does not specifically disclose sending a signal to a disable pin. However, Stephenson further teaches that an optoelectronic transceiver may include a disable pin 115 (Figure 4).

As discussed above with regard to claims 1 and 4, King et al. already inherently disclose that the circuitry for controlling the device is configured to disable the device if desired. It would have been obvious to a person of ordinary skill in the art to further include a disable pin as taught by Stephenson in the system described by King et al. in view of Stephenson and Swartz in order to provide a way to clearly cut off the transceiver and prevent the various feedback loops in the system from activating or controlling the transceiver in response to the loss of output (Stephenson, page 6, paragraph [0045]).

Regarding claims 3 and 6, which depend on claims 1 and 4 respectively, King et al. disclose that the limit value is dependent on a temperature of the optoelectronic device (column 16, lines 27-31).

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Regarding claim 7, King et al. disclose a temperature look up table used in generating control signals based on a temperature of the optoelectronic transceiver (column 13, lines 60-62; column 14, lines 1-10).

Regarding claim 8, King et al. disclose a circuit for controlling an optoelectronic device having a laser transmitter 36 (Figure 1), comprising:

memory (the PROM, RAM, and EEPROM elements in microcontroller 50), including one or more memory arrays for storing information related to the transceiver;

analog to digital conversion circuitry 52 for receiving at least one analog signal, the at least one analog signal corresponding to operating conditions of the optoelectronic transceiver, converting the at least one analog signal into at least one digital value, and storing the at least one digital value in at least one predefined location in the memory (column 13, lines 49-67; column 14, lines 1-9);

control circuitry (modulation control adjust 24 and bias control 30) configured to generate control signals to control operation of the laser transmitter in accordance with one or more values stored in the memory (column 16, lines 26-31);

an interface (serial port 26) for allowing a host (such as computer 90 in Figure 3) to read from and write to host specified locations within the memory; and

wherein the control circuitry includes circuitry configured to adjust one or more control signals in accordance with an adjustment value stored in the memory by the host via said interface (column 13, lines 58-64; column 16, lines 26-31).

Again, although King et al. also disclose a photodiode receiver 40, the receiver 40 receives a signal fed back from the transmitter; they do not specifically disclose a photodiode

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receiver together with the disclosed laser transmitter in a “transceiver” context (wherein the receiver would receive signals sent from an opposing communication device).

However, bidirectional optical communication using a transmitter and a receiver at both ends is well known in the art. Stephenson in particular teaches an optical communications system (Figures 2-4), including a laser transmitter 110 such as already disclosed by King et al., and further including a photodiode receiver 134 associated with that transmitter to provide a transceiver. It would have been obvious to a person of ordinary skill in the art to further include a receiver as taught by Stephenson in the system disclosed by King et al. in order to enable bidirectional communications between two locations.

Again, King et al. do not specifically disclose that the circuit is an integrated circuit. However, it is well known in the art that a circuit containing components such as memory or analog to digital conversion circuitry may be integrated, as Swartz in particular teaches (column 11, lines 3-22). It would have been obvious to a person of ordinary skill in the art to integrate the controller components disclosed by King et al. as taught by Swartz (in the system described by King et al. in view of Stephenson) in order to manufacture the controlling circuit efficiently and compactly.

Regarding claim 9, King et al. disclose that the adjustment value corresponds to a deviation from a configured operating condition of the optoelectronic transceiver, since the control signals disclosed by King et al. are adjusted based on deviations in operating conditions (such as temperature or power; column 16, lines 26-31).

Regarding claim 10, King et al. disclose that the control circuitry is configured to adjust the one or more control signals by scaling the control signals in one embodiment of their system.

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King et al. disclose that the stored adjustment values may be in the form of polynomial coefficients for scaling and calculating the control signals in real time (column 13, lines 60-64; column 16, lines 26-31).

Regarding claim 11, King et al. disclose that the control circuitry may be configured to adjust the one or more control signals by an amount specified by the adjustment value in another embodiment of their invention. King et al. discloses that the control circuitry may adjust control signals using specified discrete adjustment amounts (column 13, lines 60-62; column 14, lines 1-10; column 16, lines 26-31).

Regarding claim 12, King et al. disclose a method of controlling an optoelectronic device having a laser transmitter 36 (Figure 1), comprising:

in accordance with instructions received from a host device (such as computer 90 shown in Figure 3), enabling (via serial port 26) the host device to read from and write to host specified locations within a controller (i.e., microcontroller 50, which includes memory elements) of the optoelectronic device;

receiving a plurality of analog signals from the laser transmitter 36, converting the received analog signals into digital values (using analog-to-digital converter 52), and storing the digital values in the controller 50; and

generating control signals (such as signals to modulation control adjust element 24 and bias control 30) to control operation of the laser transmitter in accordance with one or more values stored in predefined memory mapped locations within the controller; and

testing operation of the device at a known deviation from a configured operating condition of the optoelectronic transceiver by adjusting one or more control signals in

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accordance with an adjustment value stored in the controller. King et al. disclose testing the device at selected temperatures by performing steps including adjusting a control signal for the transmitter (such as a modulation current signal) in accordance with a stored incremental adjustment value (Figure 6; column 11, lines 21-23 and lines 37-60). Also, King et al. disclose that during operation of the transceiver, control signals are adjusted according to known deviations from a configured operating condition using adjustment values that are stored either as discrete values or polynomial coefficients (column 13, lines 60-64; column 16, lines 26-31).

Again, although King et al. also disclose a photodiode receiver 40, the receiver 40 receives a signal fed back from the transmitter; they do not specifically disclose a photodiode receiver together with the disclosed laser transmitter in a “transceiver” context (wherein the receiver would receive signals sent from an opposing communication device).

However, bidirectional optical communication using a transmitter and a receiver at both ends is well known in the art. Stephenson in particular teaches an optical communications system (Figures 2-4), including a laser transmitter 110 such as already disclosed by King et al., and further including a photodiode receiver 134 associated with that transmitter to provide a transceiver. It would have been obvious to a person of ordinary skill in the art to further include a receiver as taught by Stephenson in the system disclosed by King et al. in order to enable bidirectional communications between two locations.

Regarding claim 13, King et al. disclose that the adjusting includes scaling the control signals by the adjustment value (King et al. disclose that the adjustment values may be polynomial coefficients that are used to scale and calculate the control signals; column 13, lines 60-64).

Response to Arguments

4. Applicants' arguments filed 31 January 2005 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicants assertion on pages 7 and 8 of their response that King et al. does not disclose "a host device that can read from and write to host specified locations within a memory."

First, King et al. disclose a host device (computer 90) that is connected to a laser diode transmitter module 80 as shown in Figure 3 via a communication interface 89, which connects to the interface element 26 shown in Figure 1 (column 10, lines 10-14; column 16, lines 58-62) .

Second, King et al. disclose that the microcontroller 50 (which contains the memory arrays in the module) receives commands from host device 90 regarding reading the memory:

"Serial interface 26 provides valuable interface for purposes of allowing a host computer or communication system to interrogate or communicate with microcontroller 50, thereby enabling monitoring and changing operation parameters without interruption of service. In such embodiments, A/D channels of the module may be monitored, D/A channels may be loaded, table entries may be monitored and/or changed, and statistical information may be gathered..." (column 16, lines 58-66)

Figure 14 also shows in the functioning of the microcontroller 50, which includes steps 228 and 230 ("Process host request (read memory, write memory...)").

Third, King et al. disclose that the host device 90 is able to read from host-specified locations in memory. Specifically, King et al. disclose that the interface 26 allows the host 90 to read "table entries" in the module (see column 16, lines 58-66 quoted above). King et al. further explicitly disclose that these table entries are stored as a memory map, whereby different table entries occupy different locations in memory:

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“Fig. 12 illustrates a table of discrete values for an exemplary memory map in microcontroller 50 that is utilized in preferred embodiments of the present invention. Each entry in the table indicates the values to be used for the corresponding temperature. Each line entry in the table represents an incremental change in temperature.” (column 13, lines 64-67; column 14, lines 1-3)

Further regarding these tables, King et al. also refer to “storing the associated modulation current in a first location of memory associated with the particular value of the operating condition” (column 20, lines 62-63).

King et al. thereby disclose that digital signals corresponding to “operating conditions” of the optoelectronic device are stored in “at least one predefined location” in the memory and that the host is enabled to read such information from those locations.

Examiner notes that the claim only recites “an interface *configured to enable* a host to read from and write to host specified locations within the memory.” Clearly King et al. disclose an interface between a host and the memory in the module, since the host reads the memory. Examiner respectfully submits that King et al. further disclose that the host sends commands to (i.e., “interrogates” as previously quoted) the module in order to select what type of information it would like to read. Examiner respectfully submits that King et al. further disclose that the serial interface 26/89 (the interface that is shown as element 26 in Figure 1 and element 89 in Figure 3) “allows” host 90 to read certain locations in the module memory (such as corresponding to table entries) in accordance with commands that the host sends.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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